SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Audit of Computer Purchasing and Inventory Control Practices

Audit #97-05

Prepared by
Office of Inspector General

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INTRODUCTION

The Office of Enterprise Engineering (OEE) responsibilities include the management of all District-wide information technology and information services through the following divisions:

- Information Systems Planning (staff division) is responsible for the technology review and acquisition of hardware and software tools for all departments.

- Information Technology Infrastructure Management's responsibilities include receiving new computer hardware and software and providing inventory control over computer hardware assets.

- Information Technology Training and Support's responsibilities include providing hardware and software assistance including the Windows 95 operating systems and Office 97 suites rollout.

- Information Technology Project Management's responsibilities include enhancing uses of existing technology by improving existing systems. Their projects included World Wide Web implementation and selection of the new PC operating system and Office suites software.

Completed and proposed purchases for the fiscal years 1996-1998 are as follows:

Fiscal Year	Computer Hardware[1]	Computer Software	Total
1996	$2,955,139	$ 391,552	$3,346,691
1997	$2,480,211	$1,269,110	$3,749,321
1998	$1,788,716	$ 889,522	$2,678,238

1 In FY98, OEE will acquire $960,621 of Computer Hardware through a capital lease. The lease term is three years with annual lease payments of $355,046.

As of September 30, 1996, the District had $19,525,942 of computer hardware assets. Computer software is not capitalized, as individual copies of software do not meet the capitalization threshold of $500.

In FY95, the District spent less than $2 million for computer hardware and software. The volume of purchases increased after the District performed an extensive evaluation of its existing technology and future technology needs through a Technology Assessment Project that culminated in the release of the *1996 Technology Assessment*[2]. The *Technology Assessment* identified 269 obsolete desktop computers, 144 marginal workstations, 97 obsolete laptops, and is the road map for future technology purchases. Subsequent to the technology assessment, 600 desktops, 226 workstations, and 210 laptop computers have been purchased or budgeted for purchase.

District-wide replacements of existing equipment and requests by departments drive the amount of computer hardware and software purchased by OEE. A Computer Life Cycle Committee has been established to determine, after considering budgetary restraints, which computer models are at the end of their useful life and need District-wide replacement. OEE staff performs the selection of new computer equipment for District-wide application. Based upon factors (availability, price, performance, and support) the models available in the marketplace are short-listed. An on-site technical evaluation is performed and the highest ranked model is recommended for purchase.

OBJECTIVES, SCOPE AND METHODOLOGY

Our audit encompassed the process through which OEE evaluates, purchases and inventories computer hardware and software.

The objectives of this audit were to determine whether computer hardware and software are:

- **!** Procured in accordance with District policy,
- **!** Obtained at the best available price for the technology acquired,
- **!** Utilized efficiently, and
- **!** Properly accounted for and safeguarded.

[2] The 1996 Technology Assessment is a report by the Deloitte & Touche Consulting Group on the status of technology used by the District to accomplish its mission.

We obtained an understanding of the computer hardware and software purchasing cycle and selected a sample of purchases from FY96 for which supporting files were obtained and evaluated.

We determined whether these purchases were made in accordance with procurement policies.

Prices were compared with other pricing sources to determine if computer hardware was purchased at a reasonable cost.

We obtained an understanding of the procedures utilized to inventory District computer resources and performed an unannounced computer inventory at five District sites to verify existence of equipment.

Additionally, we obtained an understanding of the internal controls surrounding the procurement and safeguarding of computer resources.

Our audit was conducted in accordance with generally accepted governmental auditing standards.

Findings and Recommendations

Summary

We tested the State of Florida's Computer Equipment Contract prices and found them to be competitive. However, OEE has, in the past, successfully identified and obtained more favorable prices in the open market. Due to constant price and product evolution in the computer equipment field, we recommend that the Procurement Division periodically test the State Contract prices by performing market surveys to determine if better hardware and software values are available.

The District should develop criteria for matching type of computer with job descriptions and survey existing computer users to determine if they are matched with the best computer for their job. We found laptop computers represent twenty percent of the District's computer purchases, and although these computers are less extensively equipped, they cost 66% more than desktop computers. Future computer purchase savings could be realized if a higher percentage of desktop computers can be used by employees at their jobs.

We performed an unannounced computer hardware inventory at five District sites and, overall, found the computer inventory to be accurate. The errors that we noted resulted from a lack of notification to Infrastructure Management of computer equipment transfers. We found that this same weakness contributes to a May 2, 1997 unlocated computer equipment balance of $278,811. We recommend that departmental computer coordinators become involved in the tracking of computer equipment and location of missing computers.

Budgetary control over computer purchasing is not centralized under OEE. We noted that the process for obtaining purchase approvals for budgeted software and hardware purchases is cumbersome. In order to process a purchase, OEE Staff has to communicate with each department the need to apply on-line funding approval for hardware and software purchases. This is especially inefficient in light of the frequency that the Procurement Division and OEE use bulk multi-departmental purchasing to fulfill the District computer needs. Budgeting computer hardware and software funding at OEE would eliminate the need for each Department to budget for this item and would speed the procurement process. In addition, the funding and decision making should reside with the program managers in OEE responsible for the computer purchasing program.

Finally, we found that the Ft. Pierce Substation does not have an in-house connection to the Computerized Maintenance Management System that the Operations and Maintenance Department uses to plan and record daily activities. As a result, the Craft Supervisor must travel to the Okeechobee Field Station, at a monthly cost of $354, to enter CMMS data. We recommend that the Ft. Pierce Substation be provided with the hardware and phone line necessary to allow for local daily entry of CMMS data. The payback period for this installation is five months.

State of Florida Contract Prices Should Be Tested

The State of Florida contract provides competitive, but not the absolute lowest, prices for computer equipment. OEE has, in the past, successfully obtained more favorable prices in the open market. Based upon our findings, we believe that the Procurement Division should periodically test the prices offered through the State Contract to help the District determine if they are obtaining the best technological value for their computer equipment purchases.

As a test of the procurement of computer equipment and software, we reviewed a sample of purchases totaling $2.2 million. The majority of the items in our sample, $1.8 million, were purchased through State of Florida Contract Number 250-040-96-1 (the "State Contract").

The State Contract, which had an effective date of July 1, 1995 through June 30, 1997, allows Florida State Agencies and other qualified participants to purchase computer equipment, software and peripherals from 42 contractors participating in the State Contract. The State estimated that participants would expend $85 million under the terms of the State Contract, thus justifying substantial discounts.

Procuring computer hardware and software through the State Contract provides advantages to the District. First, competition is waived according to District PROCUREMENT AND CONTRACTING POLICY 7.10000, which states:

> All types of procurement may be made without District competition, as long as it can be documented in writing that such procurement results in the best priced value for the District, by using the State of Florida contract, General Services Administration schedules, or other government procurement contracts.

The purchases we sampled were in compliance with District procurement policy.

Second, the State Contract offers good pricing as vendors are successful bidders through the State of Florida, Department of Management Services, Division of Purchasing. In the past, the District has negotiated additional volume discounts from the quoted State Contract price.

Third, purchasing through the State Contract is efficient. The lack of required competition allows computer hardware and software to be purchased through a purchase order without issuing a Request for Quotation or a Request for Bid. This simplified process can save the District a minimum of twenty to thirty days.

Despite the advantages noted above, the District should be aware of two disadvantages of the State Contract, pricing and product evolution.

For small dollar volume purchases using the State Contract is entirely appropriate. However, caution should be exercised for high dollar volume purchases because prices available through the State Contract may not provide the District with the best priced value.

The State Contract price clause states:

> The percentage mark-up (cost plus) or discount from the Manufacturer's Suggested Retail Price shall remain firm for **any** product placed on the contract resulting from this bid...
>
> When the manufacturer's list prices for products on the contract are reduced, the contractor shall submit revised prices which reflect the same percentage as was originally bid. In no instance may the new pricing result in an increase in net prices. Reductions in price shall be effective upon receipt of written notification to the [Department of Procurement] and shall remain in effect for the balance of the contract term, unless further reduced by the contractor.

We do not know the extent to which the State monitors vendor compliance with this clause. Notwithstanding, the clause is inherently weak because contractors may lower their commercial discounts from the manufacturers' suggested retail price without triggering a reduction in the State Contract price. Discounted prices may be available in the commercial marketplace that fall below a State Contract

price established upon a manufacturers' suggested retail price which may not have changed.

An audit performed by the State of Florida Office of Program Policy Analysis and Government Accountability (OPPAGA) found that:

> . . . manufacturers' suggested retail prices often do not reflect current market conditions, which limits their usefulness in assessing the economy of the microcomputer contract.

Constant change in computer specifications and price characterizes the computer technology field. The products and prices offered through a long - term contract could become out of sync with current market conditions. As an example, presented below are the options and prices offered by Dell Computer through the State Contract for a desktop computer offered at a one year interval:

	Specifications:	***Specifications:***
	166 Speed Pentium	**200 Speed Pentium**
	32 MB Ram	**64 MB Ram**
	1 GB hard drive	**3 GB hard drive**
	Price:	***Price:***
	May 1996 $ 2,344[3]	**May 1996 Not Offered**
	May 1997 $ 2,000	**May 1997 $ 2,333**

In the span of one year, the price offered by Dell for a basic 166 speed Pentium computer dropped over 17 percent. In May 1997, a machine with faster speed, double the RAM and triple the hard drive capacity could be purchased for less than the base computer in May 1996. The 200 speed machine was not offered through the State Contract in May 1996. However, OEE has been responsive to the changes in the market and is currently purchasing the Dell 200 speed Pentium computer with the latest multimedia chip technology at a price of $1,989 through the State Contract.

[3] The Dell price offered through the State Contract was $2,344. The District negotiated a $60/2.5% discount off this price, to $2,284.

We compared prices offered through the State Contract, for four items commonly purchased by the District to prices obtained from websites, computer magazines, and computer catalogs. The comparative products and prices are shown at Exhibit 1, Tables 1-4. The results of these price comparisons are discussed below:

Table 1 summarizes prices and specifications for Pentium desktop computers. Our comparison indicates that although the State Contract offers a discount from prices offered on Dell's website, comparable products are available at lower prices.

Table 2 summarizes prices and specifications for Pentium laptop computers. This comparison also indicates that comparable products are available at lower prices.

Table 3 summarizes prices and specifications for desktop laser printers. We were able to find a lower price for the specific model purchased from the State Contract. Overall the price range for this category of laser printer is grouped tightly although competitive products can be found at lower prices.

Table 4 summarizes prices and specifications for comparable 17" VGA Monitors. We were able to locate a lower price than the State Contract for the monitor purchased by the District. Additionally, we found several competitive monitors available at lower prices. OEE noted that the State Contract price exceeded the market and obtained a lower price of $557 through a request for quotes.

The overall results of our price testing indicate that the State Contract offers competitive, but not the absolute lowest, prices for the same or comparable computer equipment. Of course, factors such as manufacturer reputation and service availability are important areas of concern beyond price. The use of competitive quotation bids for large dollar volume purchases would allow the District to determine if the State Contract is providing the best price and specifications for computer equipment. Additionally, checking the market as needed could allow the District to obtain computer equipment with higher specifications when compared with equipment offered through the State Contract.

Recommendation:

The Budget and Procurement Department should:

1. **Require the Procurement Division's Contract Administrator to perform periodic market surveys on an as needed basis to determine the best purchasing practices that will yield the lowest cost. If competitive bidding would result in lower cost it should be used in lieu of the State Contract.**

   Budget and Procurement stated:

   Procurement concurs with the recommendation: for computer items with quantity purchases that have long term fixed prices on the State Contract, the purchase agent will continue to perform market evaluations to ensure the lowest cost.

   The Office of Enterprise Engineering states:

   OEE concurs with the recommendation. Computers are purchased directly from the manufacturer and printers are purchased through the State contract on a cost plus basis, both of which adjust as market conditions change.

   Responsible Division: Procurement
   Estimated Completion Date: Ongoing

Criteria Should Be Established for the Type of Computer Required for District Positions

Capital expenditures could be reduced if job positions are identified where a desktop can supplant a workstation or laptop.

District employees are primarily provided with one of three types of computer equipment: a desktop PC, a laptop PC or a Unix workstation. The District purchased or budgeted the following computers and workstations during FY96 - FY98:

Fiscal Year 1996 Computer Purchases	Number Purchased	Percentage	Typical Price
Desktop	460	68	$ 2,283
Laptop	83	12	$ 3,798
Workstation	135	20	$ 15,976

Proposed Fiscal Year 1997 Computer Purchases	Number Purchased	Percentage	Estimated Price
Desktop	50	35	$ 3,000
Laptop	79	55	$ 4,400
Workstation	14	10	$ 17,300

Proposed Fiscal Year 1998 Computer Purchases	Number Purchased	Percentage	Estimated Price
Desktop	90	42	$ 3,000
Laptop	48	22	$ 4,600
Workstation	77	36	$ 17,236

Source: Office of Enterprise Engineering

During FY96 the typical purchase price of a laptop was 66% higher than a desktop, and the typical price of a workstation was almost seven times the cost of a desktop PC. The estimated FY97 and FY98 prices reflect a similar price scenario with the percentage of laptop computer purchases increasing. Additionally, the laptop computer model generally purchased is equipped with less speed, random access memory, and hard drive memory than the generally purchased desktop model. However, the workstation purchased by the District is superior in specifications to the desktop model. Based upon these costs, providing an employee, who does not require a laptop or workstation, with a desktop PC can minimize the cost of purchasing computers.

A Computer Usage Classification Proposal was developed during the *1996 Technology Assessment*, which divided the District's technology use into three levels. For these three levels, the minimum desktop, laptop, and workstation needs were identified. However, the proposal did not identify which type of computer matched the specific job positions at the District. In order to minimize the cost of computer purchases, District employees should use the most cost-effective type of computer equipment that allows the employees to complete their job.

OEE staff does not currently survey end users to determine that the mix of computers being requested by departments are the most economical.

A survey should be designed to obtain an understanding of the current usage of computers by District employees. This survey could determine factors such as software applications used and field requirements to determine if an employee is currently matched with the most efficient computer for their job. Based upon the survey results, a list can be set up to redirect high-end equipment and laptop computers to more needy users. To minimize the work level of determining computer needs per job position in future years, this process could be performed for computers scheduled for replacement during each fiscal year. The Office of Enterprise Engineering could develop guidelines for computer requirements and provide the guidelines to the departments. Prior to the departments requesting the type of computer equipment they prefer through the budget process, the Departmental Computer Coordinators could match the computer guidelines to the job positions in their departments.

Recommendations:

The Office of Enterprise Engineering should:

2. Develop Computer requirements for District job positions.

Management Response:

The Computer Usage Classification Guideline will be expanded to match types of computers to individual jobs. This guideline will be updated annually as technology and job responsibilities change.

Responsible Division: Information Systems Planning
Estimated Completion Date: October 1997

3. Survey Computer users to determine current usage of computer equipment.

Management Response:

Management concurs with the recommendation. This could be performed with the assistance of the Information System Liaisons (ISLs) since they are focused on the computer users in each department. OEE will initiate the process but depend on the ISL to reach each computer user in their department. The ISL will make a recommendation on switching under utilized computer equipment as well as implement the changes upon completion of the survey. OEE will assist ISLs with moves between departments as necessary. This should be done as part of the FY98 computer platform rollout process. By requiring this process prior to delivery of new computer equipment, it will insure completion each year.

Responsible Division: Technical Services, Infrastructure Management and Information System Liaisons.
Estimated Completion Date: December 1997

4. Redistribute high-end workstations and laptop computers to more needy users.

Management Response:

Management concurs with the recommendation.

Responsible Divisions:	Technical Services, Infrastructure Management and Information System Liaisons
Estimated Completion Date:	December 1997

Additional Resources Should be Devoted to Track Computer Inventory

Providing Infrastructure Management with assistance for inventory tracking would improve accountability for computer equipment, reduce unlocated computer assets, and ultimately reduce the write-off of computer equipment.

We performed an inventory of computer equipment at five District locations. Our objective during these inventories was to determine whether computer equipment, once purchased, is being properly accounted for and controlled. To achieve this objective we tested for the following attributes:

- Existence of the computer equipment
- Accuracy of the computer inventory database
- Accuracy of the fixed asset records

The inventories were performed on the following dates:

- April 28, 1997, at the Clewiston Field Station and the S5A Pump Station.
- April 29, 1997, at the Martin/St. Lucie Service Center.
- April 30, 1997, at the Okeechobee Field Station and the Okeechobee Service Center.

Overall, we found Infrastructure Management's computer inventory database to be accurate; however, the following exceptions were noted during our inventories.

Exception Category	Number of Exceptions
Equipment at Location but Not Listed on the Database	19
Equipment Listed on the Database but Not at Location	4
Idle Equipment Noted	3
Fixed Asset Records Incorrect	2
Equipment Incorrectly Tagged	1
Total	29

Primarily, these exceptions were the result of Infrastructure Management's asset database not being updated on a timely basis. Overall, we found that when computer equipment changes locations between inventory dates, Infrastructure Management is not notified and the computer asset database is not updated.

At the completion of the annual Computer Equipment Inventory, the Infrastructure Management Division provides Property Management with a report of unlocated assets. Total unlocated assets as of September 30, 1996, were $364,639. This represented assets determined missing during FY92 - FY96. After assets have been missing for four years, they are considered unrecoverable and written off.

On January 16, 1997, with Governing Board approval, $44,815 of computer assets determined missing during FY92 were written off, consisting of the following categories:

Category	Amount
Unlocated	$21,764
Stolen[4]	18,291
Miss - tagged	4,760
Total	$44,815

Source: Property Management

Monthly, Property Management provides Infrastructure Management with a copy of a District-Wide Unlocated Assets Report. The report dated May 2, 1997, indicated $278,811 of unlocated computer assets determined missing during FY93-FY96. Differences between reports are not analyzed and reconciled. The next update to the unlocated asset report will occur upon the completion of the September 30, 1997, computer inventory.

The resources devoted to location of unlocated assets are minimal, one employee, which lessens the ability of the District to aggressively search for unlocated assets. Utilization of departmental computer coordinators and asset custodians for expediting the annual inventory count, maintaining accurate computer asset records, and locating missing assets is possible as follows:

< Performing the annual inventory of computer assets in their department through use of Bar Code Scanners, and downloading the information to Infrastructure Management's database,

< Completing Property Control transfer forms for all transfers of computer inventory with a copy forwarded to Infrastructure Management, and

< Assisting in the location of departmental unlocated computer assets

[4] Stolen property is not included on the unlocated assets report but is included herein for informational purposes.

through interviewing the last employee with custody of the equipment and reviewing completed property transfer forms.

The Property Management Division could also be enlisted to assist in locating missing assets through reviewing copies of property transfer forms for departments other than the originating department.

The District's FIXED ASSET POLICY 6.10000, states that fixed asset accounting should:

> Facilitate overall control and custody of the District's property through the following requirements:
>
> < an annual physical inventory, and
>
> < timely reporting of fixed asset transfers to ensure custodial responsibilities and accountability.

The Infrastructure Management Division is responsible for initially assigning the asset number for all computers and for tracking computers as they are transferred between employees and District sites. They are also responsible for providing this information to the Accounting Department so that the District's fixed asset records are accurate. Ideally, the Computer Asset Database and the District's fixed asset records should be updated weekly.

A process is not in place to track computer transfers during the year. Computer assets are considered property of Organization 3040, Office of Enterprise Engineering, Infrastructure Management; therefore, transfers of Computer assets between District sites are not considered transfers for Property Management purposes. This leads to Infrastructure Management not being notified of computer asset transfers between District locations. For example, installation of a new computer by the Information Technology Training and Support Division can result in the transfer of several computers in a department and the ultimate disposal of an obsolete computer. All of these transfers should be reflected in Infrastructure Management's database prior to the next computer inventory.

As computer assets are not considered assets of the user departments, a lack of accountability exists for these assets. For example, the District-wide unlocated assets report shows all computer assets under Organization 3040 and does not reflect the last department that had custody of the asset. On the other hand, if

unlocated assets were reported by location, motivation would exist for individual departments to accurately track the location of computer assets. When an asset is determined to be unlocated, control over the asset is lost which leaves it vulnerable to loss and theft. Ultimately, if not located in four years, the unlocated asset is written off before the end of its useful life. This may result in incorrect fixed asset totals in the District's fixed asset records. Additionally, the District bears an opportunity cost if the unlocated asset is idle.

Recommendations:

The Office of Enterprise Engineering should:

5. Request assistance from departmental computer coordinators in performing the following tasks:

- **Performance of annual computer equipment inventories, and**
- **Completion of Property Control Transfer Forms for all computer equipment transfers, and**
- **Location of missing computer assets.**

Management Response:

Management concurs with the recommendation. We will solicit this assistance during these endeavors.

Responsible Division: Infrastructure Management
Estimated Completion Date: Ongoing

6. Request Property Management's assistance in location of District-wide unlocated computer assets.

Management Response:

The Office of Enterprise Engineering states:

Appropriate recommendation since these assets are located

throughout the entire District. We will solicit their assistance as we complete this year's physical inventory to help us and the Information Systems Liaisons locate the unlocated computer assets.

Management Services states:

We concur with the recommendation.

Responsible Division: Infrastructure Management
Estimated Completion Date: October 1997

7. Establish a process to update the Computer Asset Database weekly for new purchases and transfers of existing equipment. Missing computer equipment in the Unlocated Asset Report should be compared to previous reports and differences should be reconciled.

Management Response:

Management concurs and will develop a process prior to October 1, 1997, to update this on a weekly basis. It will take longer to go back and capture software that has moved, but this process will be initiated as well.

Responsible Division: Infrastructure Management
Estimated Completion Date: October 1997

8. Increase departmental accountability for unlocated computer assets by reporting unaccounted for items by department and location, quarterly.

Management Response:

Management concurs; this is a good recommendation now that we have established an ISL in most large departments that can assist in the locating of these assets. We would recommend beginning this process in September as OEE begins to search for these unlocated items.

Responsible Division: Infrastructure Management
Estimated Completion Date: November 1997

The Management Services Department/ Property Management Division should:

9. Establish a written policy for the duties and responsibilities of District departments pertaining to the following:

- < **Assistance in computer equipment inventories,**
- < **Completion of Property Control Transfer Forms, and**
- < **Location of missing assets.**

Management Response:

The Office of Enterprise Engineering states:

This is an appropriate request that needs to be developed in cooperation with each department, and staffing resources may be an issue. This will take several months to develop and achieve acceptance with all parties.

Management Services states:

We concur with the recommendation. The completion of property transfer forms for any redirection of computer hardware is essential to maintaining control of these assets.

Responsible Division: General Services–Property Management/Infrastructure Management
Estimated Completion Date: April 1998

Budgetary Control Over Computer Hardware and Software Purchases Should Be Centralized

We noted that the process for obtaining purchase approvals for budgeted software and hardware purchases is cumbersome. Purchasing of hardware and software items is the responsibility of OEE, although the funding for the purchases is controlled by individual departments; therefore, purchase order requisitions are entered and approved at department level.

The Procurement Division consolidates the District-wide requisitions into purchase orders by manufacturer, with copies provided to department computer coordinators and OEE staff. The use of bulk purchasing by OEE allows the District to leverage prices based upon the size of their orders. In order to process a purchase, OEE staff has to communicate with each department the need to apply on-line funding approval for hardware and software purchases. This is especially inefficient in light of the frequency that the Procurement Division and OEE use bulk multi-departmental purchasing to fulfill the District computer needs.

Budgeting computer hardware and software funding at OEE would eliminate the need for each Department to budget for this item and would speed the procurement process. In addition, the funding and decision making should reside with the program managers in OEE responsible for the computer purchasing program.

Recommendation:

To the Executive Office/Budget and Procurement Department:

10. **The Office of Enterprise Engineering should be given centralized control over the budget for computer hardware and software purchases.**

    Management Response:

    The Office of Budget and Procurement and the Finance Department offered the following alternative to our recommendation:

    Consider maintaining the current practice of:

- budgeting all computer hardware and software items in each department rather than record further District overhead in a support program area; and

- maintaining centralized control over the budget, final approval, and purchasing for computer hardware and software purchases by the Office of Enterprise Engineering.

Then, approve all requisitions centrally, thus charging each expenditure to the distributed departmental program area. This is currently feasible

The Office of Enterprise Engineering states:

This would make the acquisition process much more efficient. Presently, some Purchase Orders are up to 50 pages in length having each department's quantity of the same item listed separate since they are requisitioned separately (computer hardware and software could be budgeted separately and moved to OEE at the beginning of the fiscal year). This could reduce a large Purchase Order to one or two pages and make accounting easier if they were all budgeted in OEE. Another option that reduces the time to get approvals completed is to have the Information Technology Requisitions centrally approved but budgeted in each department. OEE recommends this be given to the Re-thinking Group for them to develop an appropriate budget process consistent with the FY98 program budgeting. The Re-thinking Group should review this within the next 2 months.

Responsible Divisions: Budget & Procurement
Estimated Completion Date: November 1997

Auditor's Comment:

We concur with the alternative recommendation.

Fort Pierce Substation Needs Connection to Computerized Maintenance Management System

Equipping the Ft. Pierce Substation with a local connection to the Computerized Maintenance Management System (CMMS) would allow the Craft Supervisor to spend more time in the Ft. Pierce area and lower travel expenses.

The Operations and Maintenance Department is in the final stages of installing a CMMS that will allow Operations and Maintenance Department personnel to track payroll, equipment, maintenance and inventory expenses by individual work orders. Currently, the Ft. Pierce Substation's Craft Supervisor must travel to the Okeechobee Field Station twice a week to enter CMMS data. In an effort to mitigate the impact of this process, the Craft Supervisor performs CMMS data entry Monday and Thursday mornings while at the Okeechobee Field Station for scheduled staff meetings.

Work orders and corresponding labor information data should be entered into CMMS twice a day, allowing supervisors to use CMMS as a management tool. Work orders are created in the morning for planned activities, and at the end of the day, time associated with completion of daily activities is entered. The Craft Supervisor is unable to enter CMMS data at the Ft. Pierce Substation due to a lack of computer hardware and telephone transmission line. The estimated costs of the hardware and phone line solution needed at the Substation are:

Initial Hardware and Telephone / Connection	Cost
VT Terminal[5]	$0
Modem	$0
Telephone line Installation	$899
Monthly Telephone Line Cost	$174

Source: OMD

[5] A Surplus VT terminal and a spare modem are available for use at no additional cost.

In summary, for a one-time charge of $899 and a monthly fee of $174, the Substation can be retrofitted for daily CMMS data entry.

A draft study titled *Ft. Pierce Substation Benefit/Cost Analysis* prepared by the Construction and Land Management Department, concluded that the benefits from operation of the Ft. Pierce Substation exceed expected costs. The primary benefit stated by the report was the savings related to daily travel to and from Okeechobee.

The two primary costs of the current CMMS data entry arrangement are travel and opportunity. Monthly travel cost, using study data, is calculated as follows:

Supervisor Time:
$21.00 per Hour x 1.5 hours x 8 trips per month = $252.00

Vehicle Expense:
$ 8.50 per Hour x 1.5 hours x 8 trips per month = $102.00.

The monthly travel expense incurred to travel to Ft. Pierce for CMMS entry is $354 (Employee Cost of $252 + Equipment Cost of $102) which exceeds the $174 monthly cost of the telephone lines needed to upgrade the Substation for local CMMS data by $180.

The payback period for the needed telephone line investment is calculated as follows:

Telephone Line Investment	**$899**
Monthly Travel Savings	**$180**
Payback Period	**5 months**

Opportunity cost is incurred when the Substation's Craft Supervisor is required to leave his primary duty station in St. Lucie County area where he is responsible for directing maintenance operations and participating in public relation activities with local agricultural interests and residents.

Recommendation:

The Operations and Maintenance Department should:

11. Provide the Ft. Pierce Substation with the required hardware and phone line to allow for local daily entry of CMMS data.

Management Response:

The Operations and Maintenance Department states:

Management agrees to research the most efficient and effective solution.

The Office of Enterprise Engineering states:

The cost justification makes this recommendation sound reasonable. At the request of the Operations and Maintenance Department, the recommendation could be implemented in 30 days.

Responsible Divisions:	Ft. Pierce Field Station and Information Systems Planning
Estimated Completion Date:	November 1997

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Table 1 – Comparative Market Pricing for Pentium Desktop Computers							
Manufacturer and Model	Price	Price Source	Speed	RAM	Hard Drive	CD ROM	External Cache
Gateway 2000[6] G5-166	$1,698	Gateway 2000 on-line	166 MHZ	32 MB	1.6GB	12X	512KB
Dell[7] 5166 GXMT	$1,666	State Contract	166 MHZ	32MB	1GB	8X	256KB
HP Vectra 525CD	$1,579	CDW on-line	166 MHZ	16MB	1.6GB	16X	256KB
Compaq Deskpro 2000	$1,549	CDW on-line	166 MHZ	32MB	2.5GB	8X	512KB

6 Gateway 2000 prices were obtained through their website on June 27, 1997.

7 The State Contract prices for the Dell Computers were viable through June 30, 1997. Dell sells through direct marketing to the consumer; their products are not available through retailers. The only competitor to Dell=s Florida State contract price is through Dell=s Internet site. We obtained a price of $2,047 for a comparable Optiplex Gs 166MHz computer through this site.

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Table 2 - Comparative Market Pricing for Pentium Laptop Computers							
Manuf & Model	Price	Price Source	Speed	RAM	Hard Drive	Screen	External Cache
Dell Latitude XPI	$4,105	State Contract	150 MHZ	24MB	I.4GB	12.1" SVGA	256K
Compaq LTE 5400	$3,899	CDW[8] on-line	150 MHZ	32MB	2.16GB	12.1" SVGA	512KB
Gateway 2000 S5-150	$3,378	Gateway 2000 on-line	150 MHZ	16 MB	2.0GB	12.1" SVGA	256KB
Texas Ints. Extensa 610CDT	$2,550	CDW on-line	150 MHZ	16MB	1.4GB	11.3 SVGA	256KB
NEC Versa 2650CD	$2,499	CDW on-line	150 MHZ	16MB	1.44GB	12.1" SVGA	256KB

[8] Computer Discount Warehouse prices were obtained from their website on June 27, 1997.

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Table 3 - Comparative Market Pricing for Desktop Laser Printers - Minimum Twelve Pages Per Minute				
Manufacturer and Model	Price	Pages Per Minute	Dots per Inch	Price Source
Epson EPL N1200	$1,779	12	600	Computer Discount Warehouse On-line
NEC Silentwriter 1765	$1,497	17	600	Computer Discount Warehouse On-line
HP LaserJet 5n	$1,404	12	600	Florida State Contract
HP LaserJet 5n	$1,329	12	600	Computer Discount Warehouse On-line
Lexmark Optra S 1250N	$1,319	12	1200	Computer Discount Warehouse On-line

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Table 4 - Comparative Market Pricing for 17 - VGA Monitors				
Manufacturer and Model	Price	Dot Pitch	Maximum Resolution	Price Source
Sony 200 SF	$776	.25mm	12 x 10	Computer Discount Warehouse On-line
NEC XV17+	$679	.28 mm	12 x 10	Computer Discount Warehouse On-line
Compaq V70	$677	.28mm	12 x 10	Compaq Florida[9] Government Catalog
Panasonic 17	$629	.27 mm	12 x 10	Computer Discount Warehouse On-line
Viewsonic 17GS	$625	.27mm	12 x 10	Florida State Contract
Viewsonic 17GS	$600	.27mm	12 x 10	Micro Warehouse[10] Catalog
Viewsonic 17GS	$576	.27mm	12 x 10	Computer Discount Warehouse On-line
Hitachi SuperScan Pro 600	$529	.28mm	12 x 10	Micro Warehouse Catalog

[9] Compaq Florida Government Catalog prices were effective March 1997.

[10] Micro WareHouse prices were obtained from the June, 1997 catalogue.